

AMENDMENTS TO THE CLAIMS

Claims 1-46 (canceled)

Claim 47 (original) A method of detecting ligand binding to a heterologous G protein coupled receptor comprising:

- a) providing transformed yeast cells comprising a reporter gene under control of a pheromone-responsive promoter, a heterologous G protein-coupled receptor gene, each said gene being under the control of a separate promoter, a mutation in a SCG1/GPA1 gene, and a hybrid G.alpha. protein;
- b) combining said cells with a compound to be tested; and
- c) detecting if said compound binds to said heterologous G protein coupled receptor.

Claim 48 (original) The method of claim 47, wherein said heterologous G protein coupled receptor is a mammalian G protein coupled receptor.

Claim 49 (original) The method of claims 47 or 48, wherein said hybrid G.alpha. protein comprises yeast G.alpha. protein sequences and heterologous G.alpha. protein sequences.

Claims 50-55 (canceled)

Claim 56 (original) The method of claims 47 or 48, wherein the reporter gene is selected from the group consisting of HIS3, G418r, URA3, LYS2, CAN1, LacZ, and CYH2 and the pheromone-responsive promoter is FUS1.

Claim 57 (original) The method of claim 56, wherein said reporter gene is selected from the group consisting of HIS3, G418r, URA3, LYS2, CAN1, and LacZ.

Claim 58 (original) The method of claim 47, wherein said heterologous G protein-coupled receptor is selected from the group consisting of .beta.2 adrenergic receptor, .alpha.2 adrenergic receptor, 5HT1-A receptor, muscarinic acetylcholine receptor, growth hormone releasing factor receptor, and somatostatin receptor.

Claim 59 (currently amended) The method of ~~claims 1, 16, or~~ claim 47, wherein said heterologous G protein-coupled receptor gene encodes a receptor selected from the group consisting of .beta.2 adrenergic receptor, .alpha.2-adrenergic receptor, 5HT-1A receptor, muscarinic acetylcholine receptor, growth hormone releasing factor receptor, somatostatin receptor, cholecystokinin receptor, and adenosine receptor.

Claim 60 (original) The method of claim 59, wherein said heterologous G protein-coupled receptor is selected from the group consisting of .beta.2 adrenergic receptor, .alpha.2 adrenergic receptor, 5HT1-A receptor, muscarinic acetylcholine receptor, growth hormone releasing factor receptor, and somatostatin receptor.

Claim 61 (currently amended) The method of ~~claims 1, 16, 47, 2, 17, or 48~~ 47 or 48, wherein said transformed yeast cell further comprises a heterologous G.alpha. subunit.

Claims 62-87 (canceled)

Claim 88 (original) The method of claim 61, wherein said heterologous G.alpha. subunit is selected from the group consisting of a Gs subunit, a Gi subunit, a Go subunit, a Gz subunit, a Gq subunit, a G11 subunit, and a G16 subunit.

Claims 89-95 (canceled)